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Senior Students Conduct Study on High Altitude Training

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CEDARVILLE, OHIO – High-altitude training is popular among many elite-level athletes as it increases hemoglobin in the blood and helps optimize the use of oxygen, aiding in endurance and overall performance.

A group of students from Cedarville University is conducting a test to see if a high-altitude training mask, meant to simulate training at high elevations, actually gives athletes the benefits of training at high altitudes.

“Not every athlete has the chance to train in a high-altitude setting, such as Colorado,” said April Crommett, Ph.D., associate professor of exercise science. “The high-altitude mask is meant to simulate that environment, and we’re studying whether or not the mask works as it is supposed to and gives similar results to training at high altitudes.”

A group of four senior exercise science majors, Erica Campbell from Colorado Springs, Colorado; Christine Kuiken from Franklin, New Jersey; Zechariah Rheaume from New Haven, Vermont; and Clay Watson from Norcross, Georgia, are conducting the testing.

The study is using eight test participants, six of whom are avid long-distance runners. Three of the runners will be tested with the use of the high-altitude mask, while the others will not use the product. The final two participants, who do not partake in high intensity level endurance training but participate in limited exercise, will be tested without the training masks.

Every two weeks the participants’ blood is tested to see if hemoglobin levels are increasing. They also undergo fitness tests to see if their overall fitness level is increasing. Final results will help determine whether or not the masks, which retail at around $80, are worth the investment.

The blood and fitness test consists of an hour on a treadmill, where participants will achieve 85 percent oxygen uptake capacity. During the test, the incline of the treadmill increases every three minutes.

After the hour is complete, heart rate is measured to determine how much oxygen is being used and if oxygen intake is increasing due to the high-altitude masks.

“This semester has allowed these students to gain great research experience, which is important if they plan on going to graduate school after this,” Crommett said.

The students will present their research in a formal presentation on December 2 at 3 p.m. in room 209 of the Callan Athletic Center.

Located in southwest Ohio, Cedarville University is an accredited, Christ-centered, Baptist institution with an enrollment of 3,711 undergraduate, graduate and online students in more than 100 areas of study. Founded in 1887, Cedarville is recognized nationally for its authentic Christian community, rigorous academic programs, strong graduation and retention rates, accredited professional and health science offerings and leading student satisfaction ratings.